[0010]   Accordingly, the invention provides a method of selecting a physiological data manipulation process. The method of selecting a physiological data manipulation process includes the acts of receiving raw data including an asynchronous component having diagnostic information and including a synchronous component, separating the asynchronous component from the synchronous component, and selecting a data manipulation process based on the diagnostic information.

[0011]   In one embodiment, the selection of a physiological data manipulation process includes classifying an abnormality condition of the diagnostic information. The act of classifying the abnormality condition further includes analyzing a rhythm, for example a sinus rhythm, an atrio-ventricular conduction, a ventricular rate, a P wave amplitude, a QT interval and an age qualifier from the diagnostic information.

[0012]   In still another embodiment, the data manipulation process includes processing the raw data using the lossy process or the lossless process.

[0013]   In still another embodiment, the separation of the asynchronous component from the synchronous component includes generating a data condition of the diagnostic information.

[0014]   The invention further provides a medical device. The medical device includes a patient data acquisition device that collects physiological data including an asynchronous component having diagnostic information and a synchronous component. The medical device also includes a software program for selecting a method of processing the physiological data, and for manipulating the physiological data based on the method of processing the physiological data selected. The software program has a signal separation module that receives the data from the data collection and separates the asynchronous component from the synchronous component, a selector module that generates a data manipulation process selection based on the diagnostic information, and a data manipulator module that manipulates the asynchronous component and the synchronous component according to the component type and the data manipulation process selection of the selector module.

[0015]

In one embodiment, the software program further includes a classifier module to classify an abnormality condition of the diagnostic information. In still another

embodiment, the software program further includes a generator module to generate a data condition of the diagnostic information.

[0016]   It is a principal advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process for compression of ECGs with certain cardiac conditions.

[0017]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process that is fully automated.

[0018]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process that requires little or no change to the currently-implemented decompression algorithm in ECG storage systems.

[0019]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process that is configurable by the users of the system.

[0020]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process in which development and implementation can be accomplished fairly quickly at a low cost.

[0021]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process that is transparent to users since it requires no interface changes.

[0022]   It is another advantage of the invention to provide a medical device and a method of selecting a physiological data manipulation process that reduces customer complaints leading to support cost savings.

[0023]   Other features and advantages of the invention will become apparent to those skilled in the art upon review of the following detailed description, claims, and drawings.

Brief Description of Drawings

[0024]   In the drawings:

[0025]   Fig. 1 shows a medical device embodying the invention; and

[0026]   Fig. 2 shows a flow chart of a method of selecting a physiological data manipulation process according to the invention.

Detailed Description

[0027]   Before one embodiment of the invention is explained in full detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. The use of including and comprising and variations thereof herein is meant to encompass the items listed thereafter and equivalents thereof as well as additional items.

[0028]   Fig. 1 illustrates a medical device 100 embodying the invention. The medical device 100 includes a patient data acquisition device 105 and a processor 110 for implementing or running a software program. The software program is preferably stored in read-only-memory (not shown) resident in the medical device 100, but may also be stored in remote servers or a hard-drive of a personal computer, or accessed as needed from computer readable media such as a CD-ROM, magnetic disk or tape or other media. The patient data acquisition device 105 is configured to be operable to obtain ECG data from any data source or device including a ECG monitoring device, such as an electrocardiograph, a patient monitor, a Holter monitor, or a stress testing system (not shown), through a connecting link 115.

[0029]
          The software program 110 include several modules including a main routine 120. Once the ECG data is acquired by the patient data acquisition device 105, a signal separation module 125 of the software program 110 will be triggered by the main routine to receive the physiological data including an asynchronous component having diagnostic information and a synchronous component. The signal separation module 125 further includes a classifier module 130 to classify an abnormality condition of the diagnostic information. The classifier module 130 further includes an analysis module 135 to analyze a combination of a rhythm, for example a sinus rhythm, *an atrio-ventricular conduction*, a ventricular rate, a P wave amplitude, a QT interval and an age